

*Curriculum Vitae*  
**Hong Zhao, Ph.D.**

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**PROFESSIONAL EXPERIENCE**

**ENZON Pharmaceuticals, Inc., 20 Kingsbridge Road, Piscataway, NJ 08854**  
April, 1997 – present: Director & Department Head, Organic & Medicinal Chemistry

**EDUCATION**

**Ph.D. in Organic Chemistry**, January, 1997  
Department of Chemistry, Rutgers-The State University of New Jersey  
**Master of Science in Organic Chemistry**, July, 1994  
Department of Chemistry, Rutgers-The State University of New Jersey  
**Bachelor of Science in Radiochemistry**, July, 1988  
Fudan University, Shanghai, China

**AWARD**

- 1) **William Rieman Prize** for outstanding teaching in chemistry for the academic year of 1995-96 Rutgers-The State University of New Jersey
- 2) Enzon Pharmaceuticals, Inc. **Inventors Award**, 1998-2008
- 3) Enzon Pharmaceuticals, Inc. **Best Publication Award**, 2003

**SOCIETIES**

American Chemical Society since 1994  
American Association of Pharmaceutical Scientists since 2002  
American Association of Cancer Research since 2006

**PUBLICATION SUMMARY**

30 papers published on peer-reviewed journals including 1 invited book chapter; 21 issued US patents; 30 US patent applications; 1 invited speech, 25 posters and oral presentations at national or international scientific meetings.

**JOURNAL PUBLICATIONS**

1. "Oxidative Conversion of *N,N*-Dimethylformamidino Nucleosides to *N*-Cyano Nucleosides" Zhao, H.; Jones, R. A.; Mullah, B.; Andrus, A.; *Tetrahedron Lett.* **1995**, Vol. 36, 4373-4376
2. "Specific Labeling Approaches to Guanine and Adenine Imino and Amino Proton Assignments in the AMP-RNA Aptamer Complex" Zhang, X.; Zhao, H.; Jones, R.A.; Jiang, F.; Patel, D. J.; *J. Biomolecular NMR*, **1997**, Vol. 9, No. 1, 55-62

3. "Use of a  $^{13}\text{C}$  atom to 'Tag'  $^{15}\text{N}$ -Labeled Nucleosides. Syntheses of [6- $^{15}\text{N}$ ]-Adenosine; [1,2- $^{15}\text{N}$ ] - and [1,2- $^{15}\text{N}$ -2- $^{13}\text{C}$ ]-Guanosine; [1,2,7- $^{15}\text{N}$ ] - and [1,2,7- $^{15}\text{N}$ -2- $^{13}\text{C}$ ]-2'-Deoxyguanosine" Zhao, H.; Pagano, A. R.; Wang, W.; Shallop, A.; Gaffney, B. L.; Jones, R. A.; *J. Org. Chem.* **1997**, Vol. 62, 7832-7835
4. "Stereoselective Acylation of 20-(S)-Camptothecin with Amino Acid Derivatives Using Scandium Triflate/DMAP" Greenwald, R. B.; Pendri, A.; Zhao, H.; *Tetrahedron: Asymmetry*, **1998**, Vol. 9, 915-918.
5. "Syntheses of [1,7- $^{15}\text{N}$ ]-Adenosine and [1,7- $^{15}\text{N}$ ]-2'-Deoxyadenosine Via a Novel Dimroth Rearrangement of the Nucleoside N1-Alkoxides, and Their Conversion to the [1,6,7- $^{15}\text{N}$ ]-Derivatives" Pagano, A. R.; Zhao, H.; Shallop, A.; Jones, R. A.; *J. Org. Chem.*; **1998**, Vol. 63, 3213-3217
6. "Solution Structures of a  $\text{Na}^+$  Cation Stabilized DNA Quadruplex Containing G•G•G•G and G•C•G•C tetrads Formed by G-G-G-C Repeats Observed in Adeno-Associated Viral DNA" Kettani, A.; Bouaziz, S.; Gorin, A.; Zhao, H.; Jones, R. A.; Patel, D. J. *J. Mol. Biol.* **1998**, Vol. 282, No. 3, 619-636
7. "General Procedure for Acylation of 3° Alcohols: Scandium Triflate-DMAP Reagent" Zhao, H.; Pendri, A.; Greenwald, R. B.; *J. Org. Chem.* **1998**, Vol. 63, 7559-7562
8. "Drug Delivery Systems Employing 1,4- or 1,6-Elimination: Poly(ethylene glycol) Prodrugs of Amine-Containing Compounds" Greenwald, R. B.; Pendri, A.; Conover, C. D.; Zhao, H.; Choe, T. H.; Martinez, A. J.; Shum, K.; Guan, S. *J. Med. Chem.* **1999**, Vol. 42, No. 18, 3657-3667
9. "20-O-Acylcamptothecin Derivatives: Evidence for Lactone Stabilization" Zhao, H.; Lee, C.; Sai, P.; Choe, Y. H.; Boro, M.; Pendri, A.; Guan, S.; Greenwald, R. B. *J. Org. Chem.* **2000**, Vol. 65, 4601-4606
10. "A Dimeric DNA Interface Stabilized by Stacked A•(G•G•G•G) •A Hexads and Coordinated Monovalent Cations" Kettani, A.; Bouaziz, S.; Gorin, A.; Majumdar, A.; Hermann, T.; Skripkin, E.; Zhao, H.; Jones, R. A.; Patel, D. J. *J. Mol. Biol.* **2000**, Vol. 297, No. 3, 627-644
11. "Controlled Release of Proteins From Their Poly(ethylene Glycol) Conjugates: Drug Delivery Systems Employing 1,6-Elimination" Greenwald, R. B.; Yang, K.; Zhao, H.; Conover, C. D.; Lee, S.; Filpula, D. *Bioconjugate Chem.* **2003**, Vol. 14, No. 2, 395-403
12. "Tripartate Poly(ethylene Glycol) Prodrugs of the Open Form of Camptothecin" Greenwald, R. B.; Zhao, H.; Xia, J. *Bioorganic & Medicinal Chem.* **2003**, Vol. 11, Issue 12, 2635-2639
13. "The Utility of Poly(Ethylene Glycol) Conjugation to Create Prodrugs of Amphotericin B" Conover, C.D.; Zhao, H.; Longley, C.B.; Shum, K.L.; Greenwald, R.B.; *Bioconjugate Chem.* **2003**, 14, 661-666
14. "Synthesis, Isolation, and Characterization of 2'-Paclitaxel Glycinate: An Application of the Bsmoc Protecting Group" Greenwald, R. B.; Zhao, H.; Reddy, P.; *J. Org. Chem.* **2003**, 68, 4894-4896
15. "Poly (ethylene glycol) Transport Forms of Vancomycin: A Long-Lived Continuous Release Delivery System" Greenwald, R. B.; Zhao, H.; Xia, J.; Martinez, A.; *J. Med. Chem.* **2003**, 46, 5021-5030

16. "A New Aliphatic Amino Prodrug System for the Delivery of Small Molecules and Proteins Utilizing Novel PEG Derivatives" Greenwald, R. B.; Zhao, H.; Yang, K.; Roddy, P.; Martinez, A.; *J. Med. Chem.* **2004**, 47, 726-734
17. "Poly (ethylene glycol) Prodrugs of the CDK Inhibitor, Alsterpaullone (NSC 705701): Synthesis and Pharmacokinetic Studies" Greenwald, R. B.; Zhao, H.; Xia, J.; Wu, D.; Nervi, S.; Stinson, S.; Majorova, E.; Bramhall, C. *Bioconjugate Chem.* **2004**, 15 (5), 1076 – 1083
18. "PEG Prodrugs of 6-Mercaptopurine for Parenteral Administration Using Benzyl Elimination of Thiols" Choe, Y.H.; Greenwald, R. B.; Conover, C.D.; Zhao, H.; Longley, C.B.; Guan, S.; Zhao, Q.; Xia, J. *Oncology Research Incorporating Anti-Cancer Drug Design*, **2004**, 14 (9), 455-468
19. "An Unexpected Amide Bond Cleavage: Poly (ethylene Glycol) Transport Forms of Vancomycin" Greenwald, R. B.; Zhao, H.; Peng, P.; Longley, C.B.; Dai, Q-H.; Xia, J.; Martinez, A. *European J. Med. Chem.*, **2005**, 40 (8), 798-804
20. "A New Platform for Oligonucleotide Delivery Utilizing the PEG Prodrug Approach" Greenwald, R. B.; Zhao, H.; Reddy, P.; Xia, J.; Peng, P.; *Bioconjugate Chem.* **2005**, 16, 758-766
21. "Antitumor Activity of Poly(ethylene glycol)-Camptothecin Conjugate: The Inhibition of Tumor Growth In Vivo" Yu, D.; Peng, P.; Dharap, S.S.; Wang, Y.; Mehlig, M.; Chandna, P.; Zhao, H.; Filpula, D.; Yang, K.; Borowski, V.; Borchard, G.; Zhang, Z.; Minko, T. *J. of Controlled Release*, **2005**, 110, 90-102
22. "Linear and Branched Bicin Linkers for Releasable PEGylation of Macromolecules: Controlled Release In Vivo and In Vitro From Mono- and Multi-PEGylated Proteins" Zhao, H.; Yang, K.; Martinez, A.; Basu, A.; Chintala, R.; Liu, H.C.; Janjua, A.; Wang, M.; Filpula, D. *Bioconjugate Chem.* **2006**, 17, 2, 341-351
23. "Structure-function engineering of interferon- $\beta$ -1b for improving stability, solubility, potency, immunogenicity, and pharmacokinetic properties by site-selective mono-PEGylation" Basu, A., Yang, K., Wang, M., Liu, S., Chintala, R., Palm, T., Zhao, H., Peng, P., Wu, D., Zhang, Z., Hua, J., Hsieh, M.-C., Zhou, J., Petti, G., Li, X., Janjua, A., Mendez, M., Liu, J., Longley, C., Zhang, Z., Mehlig, M., Borowski, V., Viswanathan, M., and Filpula, D. *Bioconjugate Chem.* **2006**, 17, 3, 618-630.
24. "Engineering an arginine catabolizing bioconjugate: biochemical and pharmacological characterization of PEGylated derivatives of arginine deiminase from *Mycoplasma arthritidis*" Wang, M., Basu A., Palm T., Jack Hua, Youngster S., Hwang L., Liu H.-C., Li X., Peng P., Zhang Y., Zhao H., Zhang Z., Longley C., Mehlig M., Borowski V., Sai P., Viswanathan M., Jang E., Petti G., Liu S., Yang K., and Filpula D. *Bioconjugate Chem.* **2006**, 17, 6, 1447-1459.
25. Book Chapter "Poly (ethylene glycol) Prodrugs: Altered Pharmacokinetics and Pharmacodynamics" Greenwald, R. B., and Zhao, H. **Poly (ethylene glycol) prodrugs: altered pharmacokinetics and pharmacodynamics. Prodrugs: Challenges and Rewards. Part I**, Series: Biotechnology: Pharmaceutical Aspects, Stella, V. J., Borchardt, R. T., Hageman, M. J., Olyai, R., Maag, H., Tilley, J. W. (Eds.) pp 283-338, **2007**, ISBN: 978-0-387-49782-2

26. "Releasable PEGylation of Mesothelin Targeted Immunotoxin SS1P Achieves Single Dosage Complete Regression of a Human Carcinoma in Mice" Filpula, D., Yang, K., Basu, A., Hassan, R., Xiang, L., Zhang, Z., Wang, M., Wang, Q.C., Ho, M., Beers, R., Zhao, H., Peng, P., Zhou, J., Li, X., Petti, G., Janjua, A., Liu, J., Wu, D., Yu, D., Zhang, Z., Longley, C., FitzGerald, D., Kreitman, R.J., and Pastan, I. *Bioconjugate Chem*, **2007**, 18, 3, 773-784.
27. "Delivery of G3139 using releasable PEG-linkers: impact on pharmacokinetic profile and anti-tumor efficacy." Hong Zhao, Ping Peng, Clifford Longley, Yue Zhang, Vima Borowski, Mary Mehlig, Prasanna Reddy, Jing Xia, Gerrit Borchard, and Jack Lipman, Luba Benimetskaya, and C. A. Stein *J. Controlled Release*, **2007**, 119(2): 143-52.
28. "Releasable PEGylation of Proteins with Customized Linkers" David Filpula, Hong Zhao, *Advanced Drug Delivery Reviews*, **2008**, 60, 29-49.
29. "Novel Prodrugs of SN38 Using Multiarm Poly(ethylene glycol) Linkers" Hong Zhao, Belen Rubio, Puja Sapra, Dechun Wu, Prasanna Reddy, Prakash Sai, Anthony Martinez, Ying Gao, Yoany Lozanguiez, Clifford Longley, Lee M. Greenberger, Ivan D. Horak *Bioconjugate Chem.*, **2008**, 19, 4, 849-859.
30. "Novel Delivery of SN38 Markedly Inhibits Tumor Growth in Xenografts, Including a Camptothecin-11-Refractory Model" Puja Sapra, Hong Zhao, Mary Mehlig, Jennifer Malaby, Patricia Kraft, Clifford Longley, Lee M. Greenberger, Ivan D. Horak *Clin. Cancer Res.*, **2008**, 14(6): 1888-1896.

#### PATENT

1. "High Molecular Weight Polymer-Based Prodrugs" Greenwald, R. B.; Pendri, A.; Zhao, H. *U.S. Patent* 6,127,355, **Oct. 3, 1999**.
2. "Preparation of High Molecular Weight Polymer-Based Prodrugs" Greenwald, R. B.; Pendri, A.; Zhao, H. *U.S. Patent* 5,965,566, **Oct. 12, 1999**.
3. "High Yield Method for Stereoselective Acylation of Tertiary Alcohols" Greenwald, R. B.; Pendri, A.; Zhao, H. *U.S. Patent* 6,111,107, **Aug. 29, 2000**.
4. "Synthesis and Antitumor Activity of Tetrapartate Prodrugs" Greenwald, R. B.; Zhao, H. Cont.-in-part of *U.S. Patent* 6,180,095, **Jan. 12, 2001**.
5. "High Yield Method for Stereoselective Acylation of Tertiary Alcohols" Greenwald, R. B.; Pendri, A.; Zhao, H. *U.S. Patent* 6,194,580, **Feb. 27, 2001**.
6. "Triple Prodrug Compositions containing Polymeric Anticancer Drugs" Greenwald, R. B.; Zhao, H. Cont.-in-part of *U.S. Patent* Application Serial No. 6,303,569, **May 9, 2001**.
7. "Camptothecin Derivatives and Polymeric Conjugates Thereof" Greenwald, R. B.; Zhao, H. *U.S. Patent* 6,608,076, **August 19, 2003**.
8. "Trimethyl Lock Based Tetrapartate Prodrugs" Greenwald, R. B.; Zhao, H. *U.S. Patent* 6,624,142, **September 23, 2003**.
9. "Methods of Preparing Amino Acid Taxane Derivatives and Polymer Conjugates Containing the Same" Greenwald, R. B.; Zhao, H. *U.S. Patent* 6,649,778, **November 18, 2003**.

10. "Tetrapartate Prodrugs" Greenwald, R. B.; Zhao, H. *U.S. Patent* 6,720,306 B2, **April 13, 2004.**
11. "Biodegradable High Molecular Weight Polymeric Linkers and Their Conjugates" Greenwald, R. B.; Zhao, H. *U.S. Patent* 6,824,766, **November 30, 2004.**
12. "Releasable Polymeric Conjugates Based on Aliphatic Biodegradable Linkers" Greenwald, R. B.; Zhao, H. *U.S. Patent* 7,087,229, **August 8, 2006.**
13. "Releasable Polymeric Conjugates Based on Aliphatic Biodegradable Linkers" Zhao, H.; Greenwald, R. B.; Pendri, A. *U.S. Patent* 7,122,189 B2, **October 17, 2006.**
14. "Polymeric Prodrugs of Vancomycin" Zhao, H.; Greenwald, R. B. *U.S. Patent* 7,272,845 B2, **September 25, 2007.**
15. "Method of Preparing Polymers Having Terminal Amine Groups" Zhao, H.; Rubio, B.; Xia, J. *U.S. Patent* 7,301,003 B2, **November 27, 2007.**
16. "Heterobifunctional Polymeric Bioconjugates" Zhao, H.; Greenwald, R. B. *U.S. Patent* 7,332,164, **February, 19, 2008.**
17. "Process for the Preparation of Polymer Conjugates" Zhao, H.; Wu, D. *U.S. Patent* 7,365,127, **April 29, 2008.**
18. "Polymeric Acyl Derivatives of Indoles" Zhao, H.; Greenwald, R. B. *U.S. Patent* 7,393,953, **July 1, 2008.**
19. "Releasable Polymeric Conjugates Based on Aliphatic Biodegradable Linkers" Greenwald, R. B.; Zhao, H. *U.S. Patent* 7,413,738, **August 19, 2008.**
20. "Multi-arm polymeric conjugates of SN38 for treatment of breast, colorectal, pancreatic, ovarian and lung cancers" Zhao, H.; Sapra, P.; Rubio, M.B. *US patent* 7,462,627, **December 9, 2008.**
21. "Prodrugs of Vancomycin with Hydrolysis Resistant Polymer Linkages" Greenwald, R. B.; Zhao, H. *U.S. Patent* 7,462,687, **December 9, 2008.**

#### **PATENT APPLICATIONS**

1. "Branched Polymeric Prodrugs of Vancomycin" Greenwald, R. B.; Zhao, H. *U.S. Patent Application Serial No. 10/705,742*, **November 12, 2002.**
2. "Novel Acylating Reagents" Greenwald, R. B.; Zhao, H. *U.S. Patent Application Serial No. 60/425,893*, **November 12, 2002.**
3. "Polymeric Oligonucleotide Prodrugs" Zhao, H.; Greenwald, R. B. *U.S. Patent Application Serial No. 60/462,070*, **April 13, 2003.**
4. "Polymeric Conjugates of Thymosin" Balion, P.; Zhao, H. *U.S. Patent Application Serial No. 60/636,033*, **December 14, 2004.**
5. "Methods of Preparing Polymers Having Terminal Amine Groups Using Protected Amine Salts" Zhao, H.; Rubio, M.B.; *U.S. Patent Application Serial No. 11/212,901*, **October 4, 2005.**
6. "Highly Efficient Methods of Preparing Polyalkylene Oxide Carboxylic Acids" Zhao, H.; Martinez, A.J.; *U.S. Patent Application was filed on January 10, 2006.*
7. "Methods of Preparing Activated Polymers Having Alpha Nitrogen Groups" Zhao, H.; Martinez, A.J.; *U.S. Patent Application was filed on January 17, 2006.*

8. "Methods of Preparing Polymers Having Terminal Amine Groups Using Protected Amine Salts" Zhao, H.; Rubio, M.B; *U.S. Patent Application Serial No. 11/537,172, September 29, 2006.*
9. "Polymeric Conjugates Containing Positively-Charged Moieties" Zhao, H.; Reddy, P.; Horak, I.; Xia, J. *PCT/US07/78598, September 15, 2007*
10. "Indenoisoquinolin-Relasable Polymer Conjugates" Zhao, H.; Gao, Y. *PCT/US07/70801, September 15, 2007*
11. "Polymeric Linkers Containing Pyridyl Disulfide Moieties" Zhao, H.; Reddy, P.; Xia, J. *PCT/US07/78596, September 15, 2007*
12. "Polyalkylene Oxides Having Hindered Ester-Based Biodegradable Linkers" Zhao, H. *PCT/US07/78593, September 15, 2007*
13. "Hindered Ester-Based Biodegradable Linkers for Oligonucleotide Delivery" Zhao, H. *PCT/US07/78597, September 15, 2007*
14. "Polymeric Short Interfering RNA Conjugates" Zhao, H.; *PCT/US07/785616, September 15, 2007*
15. "Targeted Polymeric Prodrugs Containing Multifunctional Linkers" Zhao, H.; Rubio, B.; Reddy, P. *PCT/US07, September 15, 2007*
16. "Lysine-Based Polymeric Linkers" Zhao, H.; Reddy, P. *PCT/US/78594, September 15, 2007*
17. "Posaconazole Polymer Conjugates and Methods of Treatment Using Posaconazole and Polymer Conjugates Thereof" Zhao, H. *US Patent Application 12/014,391, January 15, 2008*
18. "Treatment of Resistant or Refractory Cancers with Multi-Arm Polymeric Conjugates of 7-Ethyl-10-Hydroxyl Camptothecin" Zhao, H.; Sapra, P. *US Patent Application 12/028,378, February 8, 2008*
19. "Polymeric Systems Containing Intracellular Releasable Disulfide Linker For the Delivery of Oligonucleotides" Zhao, H., Reddy, P. *US Patent Application 61/055869, May, 23, 2008*
20. "Folate Directed Polymeric Systems for the Delivery of Oligonucleotides" Zhao, H., Reddy, P. Rubio, M.B. *US Patent Application 61/055950, May, 23, 2008*
21. "Nanoparticle Compositions for Nucleic Acids Delivery System" Zhao, H., Shi, L. *US Patent Application 61/085,289, July 31, 2008*
22. "Cationic Lipids with Branching Moiety" Zhao, H., Shi, L. *US Patent Application 61/115307, November 17, 2008*
23. "Releasable Polymeric Lipid-imine" Zhao, H., Shi, L., Wu, D. *US Patent Application 61/115379, November 17, 2008*
24. "Releasable Polymeric Lipid-ketal" Zhao, H., Shi, L., Wu, D. *US Patent Application 61/115371, November 17, 2008*
25. "Endosome Releasable Conjugates for Nucleic Acids Delivery" Zhao, H., Reddy, P., Xia, J., *US Patent Application 61/115350, November 17, 2008*
26. "Nuclear Localization Signal Conjugates for Nucleic Acids Delivery" Zhao, H., Reddy, P., Xia, J., *US Patent Application 61/115326, November 17, 2008*
27. "Releasable Fusogenic Lipid Imine" Zhao, H., Wu, D. *US Patent Application 61/115378, November 17, 2008*

28. "Releasable Cationic Lipid ketal" Zhao, H., Shi, L., Yan, W-L., Wu, D. *US Patent Application 61/115365, November 17, 2008*
29. "Releasable Cationic Lipids Imine" Zhao, H., Shi, L., Yan, W-L., Wu, D. *US Patent Application 61/115348, November 17, 2008*
30. "Releasable Cationic Lipids disulfide" Zhao, H., Wu, D., Royzen, M., *US Patent Application 61/115287, November 17, 2008*

### INVITED SPEECH

"Prodrug Design Based on PEG Linkers" Hong Zhao, Prodrugs: Effective solutions for solubility, permeability, and targeting challenges, The Inaugural Conference by Pharmaceutical Education Associates, the Union League Hotel, Philadelphia, PA, June 28-29, 2004.

### POSTER AND ORAL PRESENTATIONS

1. "The Study of Hydrolysis Kinetics of  $\alpha$ -Naphthoate in the Presence of Cyclodextrins" Zhang, D.D.; Zhai, Y.M.; Zhao, H.; Huang, N.J. The 10<sup>th</sup> IUPAC Conference on Physical Organic Chemistry, Technion, Haifa, Israel; 8/5/90
2. "Bromination Studies of Cyclodextrin/Phenol Complexes" Zhang, D.D.; Huang, N.J.; Yu, M.M.; Shen, H.; Ye, M.X.; Zhao, H. The 5<sup>th</sup> International Symposium on Cyclodextrins, Paris, France; 3/28/90
3. "Use of a <sup>13</sup>C atom to 'Tag' <sup>15</sup>N-labeled Nucleosides. Syntheses of [6-<sup>15</sup>N]-Adenosine; [12-<sup>15</sup>N] and [1,2-<sup>15</sup>N-2-<sup>13</sup>C]-Guanosine" Zhao, H.; Jones, R.A. Eighth Annual Minisymposium in Molecular Biophysics, Rutgers University, New Brunswick, NJ, 5/3/96
4. "PEG Prodrugs of Amino Containing Anticancer Agents-I: Delivery Based on 1,6-Elimination" Zhao, H.; Pendri, A.; Martinez, A.; Guan, S.; Boro, M.; Greenwald, R.B. 90<sup>th</sup> AACR Annual Meeting, Philadelphia, PA, April 10-14, 1999.
5. "20-O-Acylcamptothecin Derivatives: Evidence for Lactone Stabilization" Zhao, H.; Lee, C.; Sai, P.; Choe, Y. H.; Boro, M.; Pendri, A.; Guan, S.; Greenwald, R. B. The Camptothecins: Unfolding Their Anticancer Potential, New York Academy of Science, Arlington, VA, March 17-20, 2000.
6. "The Utility of Polyethylene Glycol Conjugation to Create Prodrugs of Amphotericin B" Zhao, H.; Conover, C. D.; Reddy, P.; Martinez, A.; Longley, C. B.; Greenwald, R. B. 2002 AAPS National Biotechnology Conference, San Diego, CA, June 24-26, 2002.
7. "The Utility of Releasable Poly(Ethylene Glycol) Linkers to Create Prodrugs of Oligonucleotides" Zhao, H.; Greenwald, R. B.; Reddy, P.; Peng, P. Tides 2003, Las Vegas, April 27-May 1, 2003.
8. "PEG Pro-Linkers: Application to Biologically Active Molecules and Proteins" Zhao, H.; Conover, C. D.; Reddy, P.; Martinez, A.; Longley, C. B.; Greenwald, R. B. 226<sup>th</sup> ACS National Meeting, New York, NY, Septemcbr 7-11, 2003.
9. "A New Aliphatic Amino Prodrug System for the Delivery of Small Molecules and Proteins Utilizing Novel PEG Derivatives" Greenwald, R. B.; Zhao, H.;

- Yang, K.; Reddy, P.; Martinez, A. 6<sup>th</sup> International Symposium on Polymer Therapeutics: From Laboratory to Clinical Practice, The Welsh School of Pharmacy, Cardiff University, Welsh, 7<sup>th</sup> – 9<sup>th</sup> January 2004.
10. "Macromolecular Engineering: Application of Releasable Poly(Ethylene Glycol) Linkers" Hong Zhao, Prasanna Reddy, Anthony Martinez, Jing Xia, Belen Rubio, Karen Yang, David Filpula, 2005 AAPS National Biotechnology Conference; San Francisco, California; **June 5-8, 2005**
  11. "Delivery of Antisense Oligonucleotides Using the Releasable Poly(Ethylene Glycol) linkers" Hong Zhao, Prasanna Reddy, Ping Peng, Gerrit Borchard, TIDES 2005, Las Vegas, Nevada; **May 1-5, 2005**
  12. "Delivery of Antisense Oligonucleotides Using the Releasable Poly(Ethylene Glycol) linkers" Hong Zhao, Prasanna Reddy, Belen Rubio, Jack Lipman, The first Annual Meeting of the Oligonucleotide Therapeutics Society; Rockefeller University, New York City, New York; **September 15-18, 2005**
  13. "Application of Releasable Poly(Ethylene Glycol) Linkers to the Delivery of Oligonucleotides and Peptides: Optimizing Pharmacokinetics for Enhanced Efficacy" Hong Zhao, Prasanna Reddy, Jing Xia, Ping Peng, Gerrit Borchard, 2005 AAPS Annual Meeting, Nashville, TN, **November 6-10, 2005**
  14. "PEGylation affects pharmacokinetic profile and immuno-stimulatory properties of antisense oligonucleotides" Ping Peng, Yue Zhang, Hong Zhao, Gerrit Borchard, Virna Borowski and Mary Mehlig, 2005 CRS Annual Meeting, Miami, Florida; **June 18-22, 2005**
  15. "The Utility of Releasable PEG as a Drug Delivery Platform for siRNA" Hong Zhao, Prasanna Reddy, Maoliang Wang, Jing Xia, Qing-Hong Dai, Eun Jang, David Filpula, John Zhang, Charles Conover, Jack Lipman, Ivan Horak, AACR Annual Meeting 2006, Washington DC; **April 1-5, 2006**
  16. "Delivery of indenoisoquinoline using customized releasable PEG linkers" Hong Zhao, Ying Gao, Charles D. Conover, Lee M. Greenberger, Ivan D. Horak, Yves Pommier, Mark Cushman, Andrew Morrell, NCI-EORTC-AACR 2006 Annual Meeting, Prague, Czech Republic; **November 7-10, 2006**
  17. "Novel Prodrugs of SN38 Generated by Multi-Arm Poly(ethylene glycol)" Hong Zhao, Belen Rubio, Zhihua Zhang, Clifford Longley, Puja Sapra, Dechun Wu, Prakash Sai, Charles D. Conover, Lee M. Greenberger, Ivan D. Horak, NCI-EORTC-AACR 2006 Annual Meeting, Prague, Czech Republic; **November 7-10, 2006**
  18. "Customized PEG Linkers for Delivery of Oligonucleotides Without Transfection" Zhao, H., Reddy, P., Xia, J., Wang, M., Sapra, P., Bandaru, R., Rubio, M. B., Wu, D., Zhu, P., Filpula, D., Greenberger, L. M., Horak, I.D. (2007). AACR/EORTC/NCI San Francisco, CA, **2007**
  19. "Customized positive PEG linkers for the delivery of antisense molecules" Zhao, H., Reddy, P., Xia, J., Ali, S., Wang, M., Sapra, P., Filpula, D., Conover, C. D., Greenberger, L. M., Horak, I.D. (2007). AACR, Los Angeles, CA, **2007**
  20. "In vitro and in vivo evaluation of PEGylated anti-Bcl2 siRNA conjugates in a Bcl-2 overexpressing lung cancer model" Zhao, H., Sapra, P., Wang, M., Reddy,



- P., Xia, J., Filpula, D., Zhang, A., Convover, C. D., Greenberger, L.M., Horak, I. D. AACR, Los Angeles, CA, **2007**.
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